

## Grade 4 Module 5 End-of-Module Assessment Task Score Sheet

### A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student CAN do now, and what they need to work on next.

Score Key: A Progression of Learning			
Little or no evidence of reasoning with an incorrect answer.  (1 Point)	Evidence of some reasoning with an incorrect answer.  (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.  (3 Points)	Evidence of solid reasoning with a correct answer.  (4 Points)

Module 5: End-of-Module Assessment									
Question	Domain			Standards					
	Operations and Algebraic Thinking	Number and Operations – Fractions		Measurement and Data	4.OA.5	4.NF.1	4.NF.2	4.NF.3	4.NF.4
1		1	2	3	4				X
2		1	2	3	4		X	X	
3	1	2	3	4		X			
4		1	2	3	4			X	
5		1	2	3	4				X
6		1	2	3	4			X	X
7 a, b				1	2	3	4		X
7 c, e		1	2	3	4		X	X	
7 d, f		1	2	3	4			X	X
7g	1	2	3	4		X			

Domain Score	Operations and Algebraic Thinking		Number and Operations – Fractions		Measurement and Data	
Total Points						
Level	4	7-8 pts.	4	25-28 pts.	4	4 pts.
	3	5-6 pts.	3	18-24 pts.	3	3 pts.
	2	3-4 pts.	2	11-17 pts.	2	2 pts.
	1	2 pts.	1	7-10 pts.	1	1 pts.

Note: For more information about standards assessed in this module, see back of this score sheet.

Notes:

## Grade 4 Module 5 End-of-Module Assessment Score Sheet (continued)

### End-of-Module Assessment Task (Topics A-H) Clusters and Standards Addressed

#### Generate and analyze patterns.

- 4.OA.5** Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

#### Extend understanding of fraction equivalence and ordering.

- 4.NF.1** Explain why a fraction  $a/b$  is equivalent to a fraction  $(n \times a)/(n \times b)$  by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
- 4.NF.2** Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as  $1/2$ . Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols  $>$ ,  $=$ , or  $<$ , and justify the conclusions, e.g., by using a visual fraction model.

#### Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

- 4.NF.3** Understand a fraction  $a/b$  with  $a > 1$  as a sum of fractions  $1/b$ .
- Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
  - Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples:*  $3/8 = 1/8 + 1/8 + 1/8$ ;  $3/8 = 1/8 + 2/8$ ;  $2\ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$ .
  - Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
  - Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
- 4.NF.4** Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
- Understand a fraction  $a/b$  as a multiple of  $1/b$ . *For example, use a visual fraction model to represent  $5/4$  as the product  $5 \times (1/4)$ , recording the conclusion by the equation  $5/4 = 5 \times (1/4)$ .*
  - Understand a multiple of  $a/b$  as a multiple of  $1/b$ , and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express  $3 \times (2/5)$  as  $6 \times (1/5)$ , recognizing this product as  $6/5$ . (In general,  $n \times (a/b) = (n \times a)/b$ .)*
  - Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat  $3/8$  of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

#### Represent and interpret data.

- 4.MD.4** Make a line plot to display a data set of measurements in fractions of a unit ( $1/2$ ,  $1/4$ ,  $1/8$ ). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*